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EXAMINER	
ABEL JALIL, NEVEEN	
ART UNIT	**PAPER NUMBER**
2175	4

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/507,064	OH, CHANG-HO	
	Examiner	Art Unit	
	Neveen Abel-Jalil	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 2/18/00

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-61 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 1-7 is/are allowed.

6)☒ Claim(s) 8-61 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Independent claims 6-16 are objected to because of the following informalities:

Claims 29-30, 39, 45, 52, 56, and 60-61 need to be rewritten to include the missing elements of the claims they incorporate. For example, claims 29 and 30 should be rewritten to include the elements of claim 25 as stated in the claim. Claim 39 should be rewritten to include the elements of claim 35. Claim 45 should be rewritten to include the elements of claim 40. Claim 52 should be rewritten to include the elements of claim 46. etc. Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 8-24, 35-56 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter, specifically, directed towards an data structure.

The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statuary subject matter under 35 U.S.C. 101.

Database Structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are neither physical "things" nor statutory processes. Applicant's claims are not within any of the statutory classes. "A database structure"

should define structural and functional interrelationships between data structures or functional parts and a computer system which permit the data functions to be realized, and is statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 8-39, and 57-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Bowman-Amuah (U.S. Patent No. 6,662,357 B1).

As to claim 8, Bowman-Amuah discloses a method for assembling a complete model that includes model elements from different model segments, the method comprising:

receiving an indication of a first model segment that contains a description of a first model element having a first structure, a reference to a second model element whose description is contained in a second model segment and that has a second structure, and an indication of a relationship between the first and second model elements that represents an alteration of at least one of the first and second structures (See column 75, lines 24-67, also see column 76, lines 1-67); and

creating the complete model by, retrieving the description of the second model element from the second model segment (See column 2, lines 20-40); and

replacing the reference to the second model element with the retrieved description (See column 4, lines 5-60).

As to claim 9, Bowman-Amuah discloses including, after the creating of the complete model, determining whether the indicated alteration of the model element structures produces a valid model (See column 110, lines 41-63).

As to claim 10, Bowman-Amuah discloses wherein the replacing of the reference to the second model element with the retrieved description includes altering at least one of the first and second structures as indicated (See column 111, lines 1-67, wherein "reference to second model" reads on "remote management").

As to claim 11, Bowman-Amuah discloses wherein the complete model is a database model specified using an Entity-Relationship format, and wherein at least one of the model

elements represents a table (See column57, lines 38-67, also see column 76, lines 52-67, also see column 77, lines 1-54).

As to claim 12, Bowman-Amuah discloses wherein the complete model is a database model, and wherein at least one of the model elements represents an object (See column 83, lines 1-47).

As to claim 13, Bowman-Amuah discloses wherein the complete model is a network model, and wherein at least one of the model elements represents a network node (See column 5, lines 1-67).

As to claim 14, Bowman-Amuah discloses wherein the complete model is specified using a Unified Modeling Language format, and wherein at least one of the model elements represents an object (See column 82, lines 1-67).

As to claim 15, Bowman-Amuah discloses wherein the complete model is specified using an Object-Role Modeling format (See column 5, lines 1-67).

As to claim 16, Bowman-Amuah discloses wherein the second structure includes second model element attributes, and wherein the indicated alteration is to add the first model element as an attribute of the second model element (See column 58, lines 65-67, and see column 59, lines 12).

As to claim 17, Bowman-Amuah discloses wherein the first structure includes first model element attributes, and wherein the indicated alternation is to add the second model element as an attribute of the first model element (See column21, lines 61-67, and see column 22, lines 1-29, also see column 58, lines 65-67).

As to claim 18, Bowman-Amuah discloses wherein the first structure includes first model element attributes, wherein the second structure includes second model element attributes, and wherein the indicated alteration is to add the attributes of the first model element as attributes of the second model element (See column 75, lines 3-55, also see column 76, lines 59-67, and see column 77, lines 1-15).

As to claim 19, Bowman-Amuah discloses wherein the first structure includes first model element attributes, wherein the second structure includes second model element attributes, and wherein the indicated alteration is, to add the attributes of the second model element as attributes of the first model element (See column 75, lines 3-55, also see column 76, lines 59-67, and see column 77, lines 1-15).

As to claim 20, Bowman-Amuah discloses wherein the model elements and the relationship each have a visual representation that are displayed to a user (See column 38, lines 17-62).

As to claim 21, Bowman-Amuah discloses including creating the model elements and the relationship before the receiving of the indication.

As to claim 22, Bowman-Amuah discloses wherein the first model element is created by a first user, and wherein the second model element is created by a second user (See column 82, lines 12-42, also see column 83, lines 1-48).

As to claim 23, Bowman-Amuah discloses wherein the first and second model segments are distinct files (See column 58, lines 1-39).

As to claim 24, Bowman-Amuah discloses wherein at least one of the first and second model segments is part of a pre-defined library of model elements (See column 83, lines 1-67, also see column 6, lines 20-52).

As to claim 25, Bowman-Amuah discloses a computer-readable medium whose contents cause a computer system to assemble a complete model that includes model elements from different model segments by performing the method (See column 6, lines 53-67) comprising:

receiving an indication of a first model segment that contains a description of a first model element having a first structure, a reference to a second model element whose description is contained in a second model segment and that has a second structure, and an indication of a relationship between the first and second model elements that represents an alteration of at least

one of the first and second structures (See column 75, lines 24-67, also see column 76, lines 1-67); and

creating the complete model by, retrieving the description of the second model element from the second model segment (See column 106, lines 43-67, also see column 82, lines 12-63); and

placing in the complete model the description of the first model element from the first model segment, the retrieved description from the segment model segment, and the indication of the relationship between the descriptions of the first and second model elements (See column 56, lines 20-67, also see column 57, lines 1-67,and see column 58, lines 1-11).

As to claim 26, Bowman-Amuah discloses wherein the contents further cause the computer system to verify completeness of the complete model (See column 36, lines 21-67, and see column 37, lines 14).

As to claim 27, Bowman-Amuah discloses wherein the contents further cause the computer system to, under control of a user, create a description of a first model element in a model segment, create in the model segment a reference to a second model element whose description is contained in another model segment, and create an indication of a relationship between the first model element and the reference (See column 76, lines 1-67).

As to claim 28, Bowman-Amuah discloses wherein the contents further cause the computer system to display to a user visual representations of the model elements, the reference, and the relationship (See column 93, lines 1-41, also see column 80, lines 19-27).

As to claim 29, Bowman-Amuah discloses wherein the computer readable medium is a data transmission medium transmitting a generated data signal containing the contents (See column 6, lines 53-67).

As to claim 30, Bowman-Amuah discloses wherein the computer readable medium is a memory of a computer system (See column 6, lines 53-67).

As to claim 31, Bowman-Amuah discloses a computer system for assembling a complete model that includes model elements from different model segments (See column 6, lines 53-67), comprising:

a user input device able to receive an indication of a first model segment that contains a description of a first model element having a first structure, that contains a reference to a second model element whose description is contained in a second model segment and that has a second structure, and that contains an indication of a relationship between the first and second model elements that represents an alteration of at least one of the first and second structures (See column 75, lines 24-67, also see column 76, lines 1-67); and

a model creator able to create the complete model by retrieving the description of the second model element from the second model segment and replacing the reference to the second

model element with the retrieved description (See column 7, lines 26-67, also see column 106, lines 43-67, also see column 82, lines 12-63).

As to claim 32, Bowman-Amuah discloses wherein the model creator is further able to verify completeness of the complete model (See column 24, lines 20-67).

As to claim 33, Bowman-Amuah discloses including a model segment creator able to, under control of a user, create a description of a first model element in a model segment, create in the model segment a reference to a second model element whose description is contained in another model segment, and create a relationship between the first model element and the reference (See column 53, lines 1-67, also see column 76, lines 52-67, also see column 77, lines 1-54).

As to claim 34, Bowman-Amuah discloses wherein the model segment creator is further able to display to the user visual representations of the first model element, the reference, and the relationship (See column 38, lines 17-62).

As to claim 35, Bowman-Amuah discloses a method for creating one of multiple model segments that are to be assembled into a complete model, the complete model including model elements from each of the multiple model elements (See column 13, lines 1-15), comprising:

receiving an indication of a first model element having a first structure (See column 131, lines 22-28);

receiving an indication of a reference to a second model element whose description is contained in another model segment and that has a second structure (See column 53, lines 1-67, also see column 76, lines 52-67, also see column 77, lines 1-54);

receiving an indication of a relationship between the first and second model elements that represents an alteration of at least one of the first and second structures (See column 5, lines 53-67, also see column 6, lines 1-67); and

creating the one model segment by (See column 131, lines 22-28),

creating a description of the first model element in the one model segment (See column 4, lines 5-60);

creating an indication of the reference in the one model segment (See column 4, lines 5-60); and

creating an indication of the relationship in the one model segment (See column 82, lines 1-67), so that the description of the first model element in the one model segment can later be combined with the description of the second model element from the another model segment in a manner consistent with the indicated relationship (See column 40, lines 38-67, also see column 52, lines 25-67).

As to claim 36, Bowman-Amuah discloses wherein the model elements and the relationship each have a visual representation that is displayed to a user (See column 38, lines 17-62).

As to claim 37, Bowman-Amuah discloses including:

creating the complete model by, retrieving the description of the second model element from the another model segment; and

replacing the reference to the second model element with the retrieved description (See column 82, lines 1-67).

As to claim 38, Bowman-Amuah discloses wherein the first model element is created by a first user, and wherein the second model element is created by a second user (See column 6, lines 43-67, also see column 39, lines 39-67, and see column 40, lines 1-35).

As to claim 39, Bowman-Amuah discloses a computer-readable medium whose contents cause a computer system to perform the method of claim 35 (See column 6, lines 53-67).

As to claim 57, Bowman-Amuah discloses a computer-readable medium containing a model segment data structure such that a complete model can be created from multiple model segments (See column 2, lines 20-40), the data structure comprising:

at least one description of a model element (See column 131, lines 22-28); and

at least one reference to another model element whose description is contained in another model segment (See column 75, lines 30-67, also see column 82, lines 1-67).

As to claim 58, Bowman-Amuah discloses including a description of a relationship between a described model element and a reference to another model element (See column 76, lines 52-67, also see column 77, lines 1-54).

As to claim 59, Bowman-Amuah discloses wherein each of the model elements have a structure including at least one attribute (See column 76, lines 52-67, also see column 77, lines 1-54).

As to claim 60, Bowman-Amuah discloses wherein the computer readable medium is a data transmission medium transmitting a generated data signal containing the data structure (See column 6, lines 53-67).

As to claim 61, Bowman-Amuah discloses wherein the computer readable medium is a memory of a computer system (See column 6, lines 53-67).

Allowable Subject Matter

6. Claims 40-56 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action.

The prior art of record (Bowman-Amuah -U.S. Patent No. 6,662,357 B1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), receiving an indication of a first model segment that when displayed contains visual representation of a first mod& element, a visual representation of a reference to a second model element whose primary visual representation is contained in a second model segment when displayed, and a visual representation of a relationship between the visual representations of the

first model element and the reference; and creating the complete model by, retrieving from the first model segment indications of the visual representations of the first model element and the relationship; retrieving from the second model segment an indication of the primary visual representation of the second model element; and replacing the indication of the visual representation of the reference with the retrieved indication of the primary visual representation, so that when the complete model is displayed, the visual representation of the relationship will indicate that the relationship exists between the visual representation of the first model element and the primary visual representation of the second model element, as claimed in Indepedent claim 40, in conjunction with remaining claims provisions.

Claims 41-45 are allowed over the prior art made of record, because they dependent from the allowed independent claim 40.

The prior art of record (Bowman-Amuah -U.S. Patent No. 6,662,357 B1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), for each of a plurality of model segments, for each model element indicated in the model segment; determining whether the indicated model element is a reference to another model element defined in another model segment; when the indicated model element is determined to be a reference to another model element, determining whether the another model element has been added to the complete model; and when it is determined that the another model element has not yet been added, adding the indicated model element to the complete model; and when the indicated model element is determined to not be a reference to another model element, adding

the indicated model element to the complete model; and for each reference to the indicated model element that exists in the complete model, replacing the reference with the added indicated model element, so that references to other model elements in the model segments are replaced in the complete model with the other model elements, as claimed in Indepedent claim 40, in conjunction with remaining claims provisions.

Claims 47-52 are allowed over the prior art made of record, because they dependent from the allowed independent claim 46.

The prior art of record (Bowman-Amuah -U.S. Patent No. 6,662,357 B1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), creating a first model element and a second model element in a first model segment; creating a first relationship between the first model element and the second model element; creating a third model element in a second model segment; creating an external first model element in the second model segment, the external first model element representing the first model element; creating a second relationship between the external first model element and the

third model element; and creating a complete model from the first and second model segments by, adding the first, second and third model elements and the first and second relationships to the complete model; and substituting the first model element for the external first model element in the complete model so that the second relationship reflects a relationship between the first model element and the third model element, as claimed in Indepedent claim 53, in conjunction with remaining claims provisions.

Claims 54-56 are allowed over the prior art made of record, because they dependent from the allowed independent claim 53.

Allowance

7. Claims 1-7 are allowed over the prior art of record.

The prior art of record (Bowman-Amuah -U.S. Patent No. 6,662,357 B1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), a method for creating a complete logical database model by combining related database elements defined in different model segments created by different users, each of the database elements representing a database table or a column of a database table, a remote database element in a different model segment represented in a current model segment by creating in the current model segment an external database element that represents the remote database element, the method comprising: under control of a first user, creating a first database element in a first model segment; under control of a second user, creating a second database element in a second model segment; creating an external first database element in the second model segment, the external first database element representing the first database element; displaying in the second model segment visual indications of the second and external first database elements; and creating a relationship in the second model segment between the external first database element and the second database element by using the displayed visual indications; and creating the complete logical database model by, adding to the complete logical database model the database elements from the first and second model segments; substituting the first database element for the external

first database element in the complete logical database model; and creating the relationship in the complete logical database model between the second database element and the substituted first database element, so that the substitution of the first database element for the external first database element in the complete logical model modifies the relationship in the complete logical database model so that it exists between the first model element and the second model element, as claimed in Indepedent claim 22, in conjunction with remaining claims provisions.

Claims 2-7 are allowed over the prior art made of record, because they dependent from the allowed independent claim 1.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:00AM-4: 30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
March 10, 2004

Charles Rones
CHARLES RONES
PRIMARY EXAMINER